

In the United States Patent & Trademark Office

In re Application of:

Daniel A. Keys and M. Parameswara Reddy

Serial No.: Unknown

Filed: Unknown

Title: **Efficient Synthesis of Protein-Oligonucleotide Conjugates**

Examiner:

Art Unit:

Atty Dkt. No.: 3501.116

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INFORMATION DISCLOSURE STATEMENT **PURSUANT TO 37 CFR §§ 1.197(b)(1) AND 1.56**

Assistant Commissioner of Patents
Washington, D.C. 20231

Sir:

In accordance with 37 CFR §§ 1.97 and 1.56, Applicant herewith submits the following Information Disclosure Statement. A copy of all cited documents are enclosed herewith.

This Information Disclosure Statement is being submitted within 3 months of the filing date of the present application. Accordingly, no fee is required for its consideration and for the consideration of the cited documents. The cited documents are:

AA1	4,526,871 (Avrameas, <i>et al.</i>)	AE3	5,854,033 (Lizardi)
AB1	4,683,194 (Saiki, <i>et al.</i>)	AA4	5,876,928 (Kourilsky, <i>et al.</i>)
AC1	4,683,202 (Mullis)	AB4	5,955,262 (Kourilsky, <i>et al.</i>)
AD1	4,946,778 (Ladner, <i>et al.</i>)	AC4	5,976,822 (Landrum, <i>et al.</i>)
AE1	5,270,184 (Walker, <i>et al.</i>)	AD4	5,989,823 (Jayasena, <i>et al.</i>)
AA2	5,316,906 (Haugland, <i>et al.</i>)	AE4	6,124,120 (Lizardi)
AB2	5,427,930 (Birkenmeyer, <i>et al.</i>)	AA5	6,143,495 (Lizardi, <i>et al.</i>)
AC2	5,443,986 (Haugland, <i>et al.</i>)	AB5	6,180,338 (Adams)
AD2	5,455,166 (Walker)	AC5	6,197,513 (Coull, <i>et al.</i>)
AE2	5,552,541 (Adams)	AD5	6,207,368 (Adams)
AA3	5,605,800 (Kourilsky, <i>et al.</i>)	AE5	6,218,152 (Auerbach)
AB3	5,648,213 (Reddy, <i>et al.</i>)	AA6	6,251,621 (Lawrence, <i>et al.</i>)
AC3	5,698,411 (Lucas, <i>et al.</i>)	AB6	6,261,808 (Auerbach)
AD3	5,733,733 (Auerbach)	AC6	6,090,552 (Nazarenko, <i>et al.</i>)

AL1 EP 641,351
AN1 EP A 439,182

AM1 EP A 320,308

- AR1 Bhattacharyya S.P., *et al.*, "Structural analysis of DNA cleaved in vivo by bacteriophage T4 terminase," *Gene* 1994 Aug 19;146(1):67-72.
- AS1 Brandtzaeg, 1973, "Conjugates of immunoglobulin G with different fluorochromes. I. Characterization by anionic-exchange chromatography," *Scand. J. Immunol.* 1973;2(3):273-90.
- AT1 Chung E.L., "Chemoprevention of lung cancer by isothiocyanates and their conjugates in A/J mouse," *Exp. Lung Res.* 2001 Apr-May;27(3):319-30.
- AR2 Ezaki, T. *et al.*, "Simple genetic method to identify viridans group streptococci by colorimetric dot hybridization and fluorometric hybridization in microdilution wells," *J. Clin. Microbiol.* 1988 Sep;26(9):1708-13.
- AS2 Ghosh SS, *et al.*, "Use of maleimide-thiol coupling chemistry for efficient syntheses of oligonucleotide-enzyme conjugate hybridization probes," *Bioconjug. Chem.* 1990 Jan-Feb;1(1):71-6.
- AT2 Gupta R.K., *et al.*, "Adjuvants for human vaccines – current status, problems and future prospects," *Vaccine* 1995 Oct;13(14):1263-76.
- AR3 Hendrickson, R.E. *et al.*, *Nucl. Acids Res.* 23:522-529 (1994).
- AS3 Kohler, G. & Milstein, C., "Continuous cultures of fused cells secreting antibody of predefined specificity," *Nature*. 1975 Aug 7;256(5517):495-7.
- AT3 Kusunoki, S. *et al.*, "Application of colorimetric microdilution plate hybridization for rapid genetic identification of 22 Mycobacterium species," *J. Clin. Microbiol.* 1991 Aug;29(8):1596-603.
- AR4 Loken and Herzenberg, 1975, "Analysis of cell populations with a fluorescence activated cell sorter," *Ann. N.Y. Acad. Sci.* 1975 Jun 30;254:163-71.
- AS4 Martin R., *et al.*, "A highly sensitive, nonradioactive DNA labeling and detection system," 13: *Biotechniques* 1990 Dec;9(6):762-8).
- AT4 Morrison, S. *et al.*, "Chimeric human antibody molecules: mouse antigen-binding domains with human constant region domains," *Proc. Natl. Acad. Sci. U S A.* 1984 Nov;81(21):6851-5.
- AR5 Oi, V. T. & Morrison, S. L., *BioTechniques* 4:214-221 (1986).
- AS5 Riechmann, L. *et al.*, "Reshaping human antibodies for therapy," *Nature* 1988 Mar 24;332(6162):323-7.

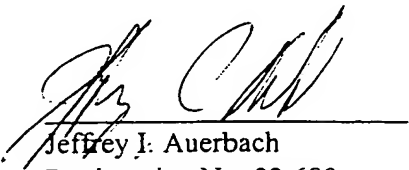
- AT5 Samoszuk, M.K., *et al.*, "A peroxide-generating immunoconjugate directed to eosinophil peroxidase is cytotoxic to Hodgkin's disease cells in vitro," *Antibody, Immunoconjugates Radiopharmaceuticals* 2(1), 37-45 (1989).
- AR6 Tramontano, A. *et al.*, "Chemical reactivity at an antibody binding site elicited by mechanistic design of a synthetic antigen" *Proc. Natl. Acad. Sci. U S A.* 1986 Sep;83(18):6736-40.
- AS6 Tyagi, *et al.*, "Molecular beacons: probes that fluoresce upon hybridization," *Nature Biotechnol.* 14(3):303-8 (1996).
- AT6 Wood, C. R. *et al.*, *Nature* 314:446-449(1985).
- AR7 Yarmush, M.L. *et al.*, "Covalent protein-oligonucleotide conjugates for efficient delivery of antisense molecules," *Bioconjug Chem.* 1997 Nov-Dec;8(6):935-940 (1997).
- AS7 Zhang T.H., *et al.*, "Detection for anti-hantavirus IgM in patient serum with silver enhanced dot immunogold filtration assay," *Zhonghua Shi Yan He Lin Chuang Bing Du Xue Za Zhi* 2000 Sep;14(3):266-7.

The Examiner is requested to contact the undersigned immediately in the event that any cited document may be unavailable in order that a replacement copy can be provided.

Respectfully submitted,

Date:

11/2/01


Jeffrey I. Auerbach

Registration No. 32,680



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November 11, 2003

Examiner Molly Seperle
United States Patent and Trademark Office
1911 S. Clark Place
Crystal Mall #1
7th Floor Reception
Arlington, VA 22202

Re: Information Disclosure Cited Documents
For: Efficient Synthesis of Protein-Oligonucleotide Conjugates
Application No. 10/032,592
Beckman Ref. No. 2065-181
Liniak, Berenato & White No. 3501.116

Dear Examiner Seperle:

Enclosed please find the cited documents in reference to the Information Disclosure Statement, submitted on January 17, 2001.

Please let me know if you have any further questions or concerns.

Sincerely,

Michelle N. Dallas
Administrative Assistant
Legal Department

Enclosures

Ser. No. 10/032,592 Filing Date 10-24-01 Dkt. 2065-181
Mailing Date: January 17, 2001
Inventor(s): Daniel A. Keys et al
For: EFFICIENT SYNTHESIS OF PROTEIN-OLIGONUCLEOTIDE CONJUGATES

The following has been received in the U.S. Patent & Trademark Office on the date stamped hereon:

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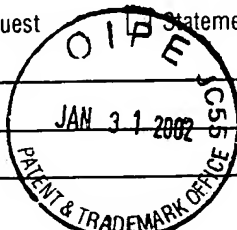
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Ser. No. 10/032,592 Filing Date 10-24-01 Dkt. 2065-181
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